

What is claimed is:

1 1. A liquid crystal display (LCD) device comprising:  
2 first and second substrates;  
3 a thin film transistor (TFT) formed in a predetermined  
4 region on the first substrate;  
5 a pixel electrode formed in a pixel region on the first  
6 substrate;  
7 a color filter layer formed on the pixel electrode;  
8 a black matrix pattern formed in a region other than  
9 the pixel electrode; and  
10 a liquid crystal layer formed between the first and  
11 second substrates.

1 2. The LCD device of claim 1, further comprising a common  
2 electrode formed on the second substrate.

1 3. The LCD device of claim 1, wherein the black matrix  
2 pattern is Benzocyclobutene (BCB).

1 4. The LCD device of claim 1, wherein the TFT is formed in  
2 a crossing region between a gate line and a data line on the  
3 first substrate.

1 5. The LCD device of claim 4, further comprising a  
2 connecting pattern which electrically connects a drain

3 electrode of the TFT with the data line.

1 6. The LCD device of claim 5, wherein the connecting  
2 pattern is removed after the color filter layer is formed.

1 7. The LCD device of claim 5, wherein the connecting  
2 pattern passes above the gate line.

1 8. The LCD device of claim 5, wherein the connecting  
2 pattern forms a single body with the data line and the drain  
3 electrode.

1 9. The LCD device of claim 1, wherein the black matrix  
2 pattern is used as a passivation film.

1 10. A method for manufacturing a liquid crystal display  
2 (LCD) device having a pixel region defined by gate and data  
3 lines, the method comprising:

4 forming a thin film transistor (TFT) on a first  
5 substrate;

6 forming a black matrix pattern in a region other than  
7 the pixel region;

8 forming a pixel electrode in the pixel region; and

9 forming a color filter layer on the pixel electrode.

1 11. The method of claim 10, further comprising:

2       forming a common electrode on a second substrate  
3       opposite to the first substrate; and  
4       forming a liquid crystal layer between the first and  
5       second substrates.

1   12. The method of claim 10, wherein forming the TFT  
2   includes:  
3       forming a gate electrode on the first substrate;  
4       sequentially depositing a gate insulating film, an a-Si  
5   layer, an n+ layer, and a metal layer on an entire surface  
6   including the gate electrode;  
7       patterning the metal layer and the n+ layer;  
8       selectively removing the patterned metal layer to form  
9   source and drain electrodes; and  
10       removing the n+ layer between the source and drain  
11   electrodes and the gate insulating film in a pad region.

1   13. The method of claim 12, wherein the a-Si layer of the  
2   pixel region is removed when the black matrix pattern is  
3   formed.

1   14. The method of claim 10, wherein the black matrix  
2   pattern is Benzocyclobutene (BCB).

1   15. The method of claim 14, wherein the black matrix  
2   pattern is used as a passivation film.

1 16. The method of claim 10, further comprising:  
2 removing the black matrix pattern in a pad region after  
3 forming the color filter layer; and  
4 forming a binder on the color filter layer and the  
5 black matrix pattern.

1 17. A method for manufacturing a liquid crystal display  
2 (LCD) device having a pixel region defined by gate and data  
3 lines, the method comprising:  
4 forming a thin film transistor (TFT) on a first  
5 substrate;  
6 forming a pixel electrode in the pixel region;  
7 forming a black matrix pattern in a region other than  
8 the pixel electrode; and  
9 forming a color filter layer on the pixel electrode.

1 18. The method of claim 17, wherein forming the TFT  
2 includes the steps of:  
3 forming a gate electrode on the first substrate;  
4 depositing a gate insulating film, an a-Si layer, an n+  
5 layer, and a metal layer on an entire surface including the  
6 gate electrode;  
7 patterning the metal layer, the n+ layer, and the a-Si  
8 layer;  
9 selectively removing the patterned metal layer to form

10 source and drain electrodes; and  
11 removing the n+ layer between the source and drain  
12 electrodes and the gate insulating film in a pad region.

1 19. The method of claim 17, further comprising the steps  
2 of:

3 forming a common electrode on a second substrate  
4 opposite to the first substrate; and  
5 forming a liquid crystal layer between the first and  
6 second substrates.

1 20. The method of claim 17, wherein the black matrix  
2 pattern is Benzocyclobutene (BCB).

1 21. The method of claim 20, wherein the black matrix  
2 pattern is used as a passivation film.

1 22. The method of claim 17, further comprising:  
2 removing the black matrix pattern in a pad region after  
3 forming the color filter layer; and  
4 forming a binder on the color filter layer and the  
5 black matrix pattern.

1 23. A method for manufacturing a liquid crystal display  
2 (LCD) device having a pixel region defined by gate and data  
3 lines, the method comprising:

4 forming a thin film transistor (TFT) and a connecting  
5 pattern on a first substrate, the connecting pattern  
6 connecting a drain electrode of the TFT with one of the data  
7 lines;

8 forming a pixel electrode connected with the drain  
9 electrode;

10 forming a black matrix pattern in a region other than  
11 the pixel region;

12 forming a color filter layer on the pixel electrode;  
13 and

14 forming a liquid crystal layer between the first  
15 substrate and a second substrate opposite to the first  
16 substrate.

1 24. The method of claim 23, wherein forming the TFT and the  
2 connecting pattern includes:

3 forming a gate electrode on the first substrate;

4 depositing a gate insulating film, an a-Si layer, an n+  
5 layer, and a metal layer on an entire surface including the  
6 gate electrode;

7 patterning the metal layer and the n+ layer;

8 selectively removing the patterned metal layer to form  
9 source and drain electrodes; and

10 removing the n+ layer between the source and drain  
11 electrodes and the gate insulating film in a pad region.

1 25. The method of claim 24, wherein the connecting pattern  
2 is formed to connect the data line with the drain electrode  
3 in a bypass way when the metal layer and the n+ layer are  
4 etched.

1 26. The method of claim 23, wherein forming the color  
2 filter layer includes electrodepositing a color filter  
3 material on the pixel electrode in a state that a voltage is  
4 applied to the data line.

1 27. The method of claim 26, further comprising:  
2 removing the black matrix pattern in a pad region; and  
3 forming a binder on the black matrix pattern and the  
4 color filter layer.

1 28. The method of claim 23, wherein the black matrix  
2 pattern is patterned to exposed the connecting pattern.

1 29. The method of claim 28, wherein the connecting pattern  
2 is removed after forming the color filter layer.

1 30. The method of claim 23, wherein the step a) includes:  
2 forming a gate electrode on the first substrate;  
3 depositing a gate insulating film, an a-Si layer, an n+  
4 layer, and a metal layer on an entire surface including the  
5 gate electrode;

6       patterning the metal layer, the n+ layer, and the a-Si  
7 layer;  
8       selectively removing the patterned metal layer to form  
9 source and drain electrodes; and  
10       removing the n+ layer between the source and drain  
11 electrodes and the gate insulating film in a pad region.

1   31.   The method of claim 30, wherein the connecting pattern  
2 is formed when the metal layer, the n+ layer and the a-Si  
3 layer are etched.